



List of projects

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| #1 | Tools portfolio |
|------------------|---|
| Project goals | Web application with tools presentation as tiles with some description. |
| Scope definition | <p>Application should allow management of several tools and present them in a nice layout.</p> <p>Proposal functionalities:</p> <ol style="list-style-type: none">1. Each tool represented as a tile - image, title, short description and url2. Tool details on modal (long description, repository etc.)3. Filtering - simple filters based on tags4. Add to favourites5. Notifications6. Permissions - different views and details for different users7. Admin panel - content management only for admins <p>Final scope of project will be set with the team.</p> |
| Requirements | Nice to have basic JS knowledge |
| Author | Ewa Kaczmarek |
| Planned duration | 1 semester |
| Team size | 4-6 |

| #2 | Workshop environment |
|------------------|---|
| Project goals | Web application for creating programming workshops. |
| Scope definition | <p>Main goal of application is to support programming workshops. Application should allow workshop creation dedicated for any programming language.</p> <p>Proposal functionalities:</p> <ol style="list-style-type: none">1. Working examples - code with explanations and working results.2. Syntax highlighting.3. Splitting material into chapters - in each chapter we extend code from the previous one (it is like building application in steps).4. Showing tasks for participants with timer at the end of each timer. <p>Final scope of project will be set with the team.</p> |
| Requirements | Web technologies knowledge |
| Author | Ewa Kaczmarek |
| Planned duration | 1 semester |
| Team size | 3-4 |

| #3 | Retro Tool |
|------------------|--|
| Project goals | Web application for supporting Retrospective Meetings. |
| Scope definition | <p>Retrospective Meeting is part of Scrum methodology. During this meeting, team reflects the past Sprint, discuss on improvements, identifies good practices. The result of the Retrospective is set of Working Agreements (set of rules/disciplines/processes the team agrees to follow) and Action Items (small task assigned to team member to be done before next Retrospective Meetings).</p> <p>Application should allow management of several projects and create new posts in each of them and also show board with Working Agreements and Action Items.</p> <p>Proposal functionalities:</p> <ol style="list-style-type: none">1. General view (only for admins):<ol style="list-style-type: none">(a) Projects management - adding/editing/removing projects, assigning members to them(b) Users management - adding/editing/removing users2. Single project view (available only for assigned users):<ol style="list-style-type: none">(a) Main dashboard with list of open Action Items and all Working Agreements set by the team(b) Board with availability of posts creation.(c) Post can have different category (new idea, code improvement etc.).(d) Adding comments to posts. |
| Requirements | Nice to have basic JS knowledge |
| Author | Ewa Kaczmarek |
| Planned duration | 1 semester |
| Team size | 4-5 |

| #4 | NERD - Newcomer Request Delivery |
|------------------|---|
| Project goals | Develop a tool that will speed up / automate newcomer enablement process by adding new user to projects, sending mail requests or manuals, and creating Jira tickets via REST API. |
| Scope definition | <p>Manager wants to give access rights to tools required to work with project for every member that joins development team (Jenkins, application server, Jira, confluence, GIT repository, etc). There also must be mail notification aimed to development team and product owner about new team member. Newcomer should get mail with set of instructions/manuals/requirements for quick start-up.</p> <p>There are two main use scenarios:</p> <ul style="list-style-type: none">• Project configuration in NERD Tool via web gui:<ul style="list-style-type: none">– Setup of messages to be sent on new team member arrival<ul style="list-style-type: none">* Configuration of message/content. Mail message template can be edited with BBCode or Markdown.* Configuration of list of recipients– Configuration of issues to be created on Jira service - target project, required fields etc• New team member arrival - particular group of people can trigger actions configured in previous step for newcomer |
| Requirements | <p>Minimal experience or eager to learn:</p> <ul style="list-style-type: none">• Some language for backend logic (i.e. Java + Play Framework)• Some language for frontend logic (i.e. JavaScript + Angular2 or Java + Vaadin)• Database knowledge• RESTful web services |
| Author | Blazej Krystek |
| Planned duration | 1 semester |
| Team size | 3-5 |

| #5 | Cross application notification system |
|-------------------------|---|
| Project goals | Implement platform allowing for easy management and aggregation of users notifications. Service should collect notifications from multiple applications and/or users. Platform should distribute notifications to subscribed end users. Additionally, there should be embeddable web component capable to displaying all unread user notification. |
| Scope definition | <ol style="list-style-type: none">1. Web component should allow for:<ul style="list-style-type: none">• easy embed inside external applications• display aggregated notifications• dismiss single/all notification• show details and links• manage subscribed notification sources and channels2. Service should:<ul style="list-style-type: none">• be secured source of data for web component• provide API for automatic notifications from applications• provide way to create manual notifications• allow scope notification message by type (info/warning/error), applications, topic and user/user groups• create easy way to notify end user about not read messages• allow for scale up for high-traffic |
| Requirements | <ul style="list-style-type: none">• Any programming language• Base web technologies knowledge• Any DB system knowledge• Eager to learn new technologies |
| Author | Dominik Markiewicz |
| Planned duration | 1 semester |
| Team size | 2-6 |

| #6 | Cross-applications shortcuts as a web component |
|-------------------------|---|
| Project goals | <p>When many web services are operated and advertised by one entity (department, company, whatever) it is wise to have consistent way to easily move user between applications. Good example are Google web apps or Microsoft web apps, where it's always obvious how to jump between services in given company portfolio - by using same looking shortcuts button in every application. The goal of the project is to have web-based service that would allow for creation, management and display of such common component for consistent linking to many web applications/pages.</p> |
| Scope definition | <p>Minimal finished project allows for:</p> <ul style="list-style-type: none">• Separate web application where one can<ul style="list-style-type: none">– create new apps - with their icons and links– order or position of particular application on applications list• Web component in any technology, that can be embedded in navbar of any application, and when clicked will display list of applications user can jump to with clickable links/anchors. <p>Possible extension: created app could monitor health of linked applications and disable/enable or modify view of the links displayed depending on the status of linked application (unresponsive, maintenance or similar).</p> |
| Requirements | <ul style="list-style-type: none">• Any programming language• Web technologies knowledge• Any DB system knowledge• Eager to learn new technologies |
| Author | Mateusz Wronski, Dominik Markiewicz |
| Planned duration | 1 semester |
| Team size | 4 |

| #7 | Mobile phone DevOps alarms delivery |
|------------------|--|
| Project goals | Develop a tool that will notify person via android app that some system or web application has crashed and/or behaves weirdly. |
| Scope definition | <p>Application that has following components</p> <ul style="list-style-type: none">• Backend app:<ul style="list-style-type: none">– monitors web services and generates and closes alarms when web applications are not responsive or has failing healthchecks– serves the mobile phone app• Android/mobile phone application:<ul style="list-style-type: none">– Allows for subscription to alarms from particular services– Receives and displays alarms and alarm cancellations– Allows the technical stuff to “claim” the alarm (“I’m working on it” notification) <p>Extra: application can be notified about events/alarms from Sensu system. Extra: backend can be notified about application events (“App x is rebooting for upgrade. Est downtime 30 minutes”)</p> |
| Requirements | Any programming language, minimal frontend dev experience (frontend frameworks) or eager to learn Angular 2. |
| Author | Mateusz Wronski |
| Planned duration | 1 semester |
| Team size | 3-5 |

| #8 | SSL/TLS support in Facebook Presto big data drivers |
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| Project goals | Extend Facebook Presto MongoDB and Cassandra drivers with SSL/TLS connectivity. |
| Scope definition | Presto is a distributed-query engine from Facebook that allows cross-querying different databases. Connection to particular database implementation is handled by Connectors. Presto connectors lack support for SSL connections to databases, that would allow for connections between Presto and databases via non-separated, even public network. At the moment such configuration requires setup of many SSH tunnels. |
| Requirements | Java, basic knowledge of PKI/SSL mechanisms |
| Author | Mateusz Wronski, Michael Dec |
| Planned duration | 1 semester |
| Team size | 1-2 |